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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,298	10/07/2003	Tetsuya Kanemaru	053466-0372	3585

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EXAMINER

VANIK, DAVID L

ART UNIT PAPER NUMBER

1615

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/679,298	<b>Applicant(s)</b> KANEMARU ET AL.	
	<b>Examiner</b> David L. Vanik	<b>Art Unit</b> 1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 and 12-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-8, 10 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

Receipt is acknowledged of the Applicant's Remarks and Amended Claims filed on 10/27/2005. Receipt is also acknowledged of Applicant's foreign priority papers filed on 1/5/2006.

As a result of Applicant's foreign priority papers, the 35 USC §102 rejection over US 2002/0142094 ('094) is hereby **withdrawn**. The 35 USC §102 rejection over 6-8, 10-11 are hereby **maintained**.

### MAINTAINED REJECTIONS:

The following is a list of maintained rejections:

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

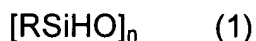
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

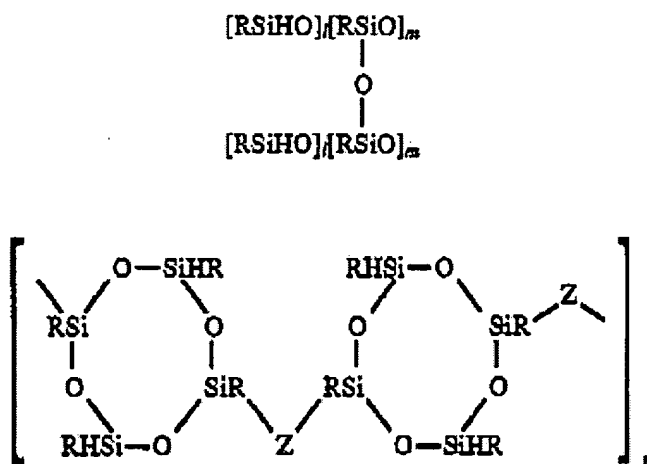
Claims 6-8, 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,635,250 ('250).

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'250 disclose a method of coating a nanoparticle or powder with various silicon-based materials (abstract, Table 1, column 15, lines 38-58, column 17, lines 27-34). Depending on the preferred application, the powder substance is between 0.01 and 100 $\mu$ M (column 17, lines 27-34). The silicon precursors used to coat the powder contain at least one Si-H group and are represented by the following structural formula:



Because a and c in the formula of the instant claim 8 can be zero, formula (1) above reads on claim 8. Specific examples of chemical precursors used to coat a powder are as follows (Table 1):



According to '250, the powder substance can be coated with a silicone-based material via pyrolysis at a temperature range between 300°C - 900° C (column 15, lines 35-63 and column 18, lines 60-65). The pyrolysis temperature can also be changed with the type of coating that is desired (column 15, lines 59-60). The process of coating a

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powder with a silicone material can also be carried out in the presence of gas (column 14, lines 54-65). The heating rate of the pyrolysis step can range between 0.1°C – 10°C per minute, based on the desired application (column 15, lines 45-47 and Table 7). Thus, it would take approximately 70 minutes to complete the pyrolysis step if the silicon coated powder was heated from 0 to 350°C at a rate of 5°C/minute.

The claims are therefore anticipated by US Patent 5,635,250 ('250).

### ***Response to Arguments***

Applicant's arguments filed on 10/27/2005 have been fully considered but they are not persuasive. In response to the 4/27/2005 Non-Final Rejection, Applicant has asserted that the silicone polymers in the '250 patent are not identical to the polymers claimed in the instant application. Specifically, Applicant asserts that the silicone precursors in the instant application are not represented by the following formula:

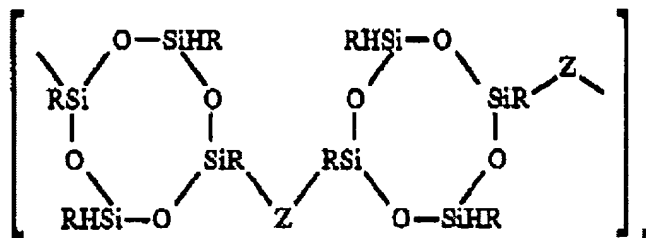
$[\text{RSiHO}]_n$ . The examiner respectfully disagrees with this assertion.

Since "c" can be zero, the chemical formula advanced by the instant claim 6 can be represented as follows:



According to the instant claim 6, "R<sup>1</sup>", "R<sup>2</sup>", and "R<sup>3</sup>" can be hydrogen and "a" and "b" can be 1. As such, the instant claim 6 reads on a structure with the following formula:

$[\text{RSiHO}]_n$ , wherein "n" is 2 or more. Additionally, the above structure reads on the following structure advanced by '250:



In conclusion, because '250 discloses a structure that meets the limitations of the instant claim 6-8, 10-11, it is the examiner's position that the instant claims are anticipated by US Patent 5,635,250 ('250).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Vanik whose telephone number is (571) 272-3104. The examiner can normally be reached on Monday-Friday 8:30 AM - 5:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carlos Azpuru, can be reached at (571) 272-0588. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Vanik, Ph.D.  
Art Unit 1615



1/31/06



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